Dairy NF1 DATA SHEET

Product Description

Membrane material	TFC polyamide
MWCO	200 - 300 Da
Outer wrap	Net
Application	Demineralization and concentration of whey and lactose
Feature	Conform to 3-A, FDA, and USDA sanitary standards

Membrane Characteristics

Product	Water Flux(LMH)	Salt Rejection($MgSO_4$)	Salt Rejection(NaCl)
Dairy-NF1	45	≥98%	/

Test Condition: 1) 2,000 ppm $MgSO_4$, 110 psi(7.6 bar), 77°F (25°C), 15% recovery.

2)The flux of one element may vary in the range of ± 25%.

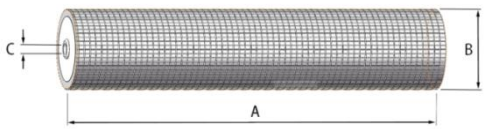
Product Specifications

Model	Membrane area (ft^2/m^2)		
	Spacer 30 mil	Spacer 45 mil	Spacer 65 mil
8340	425(39.5)	330(30.7)	252(23.4)
8338	425(39.5)	330(30.7)	252(23.4)
8038	382(35.5)	314(29.2)	224(20.8)
6438	226(21.0)	185(17.2)	131(12.2)
6338	226(21.0)	185(17.2)	131(12.2)
4338	95(8.8)	79(7.3)	48(4.5)
3840	75(7.0)	59(5.5)	42(3.9)
3838	75(7.0)	59(5.5)	42(3.9)
2538	28(2.6)	20(1.9)	N/A

Operating and Design Information

Typical Operating Pressure	70 - 400 psi (4.8 - 27.6 bar)	
Maximum Operating Pressure	600 psi (41.4 bar)	
Maximum Temperature	Continuous Operation: 50°C(122°F)	Clean-In-Place(CIP): 50°C(122°F)
Allowable pH	Continuous Operation: 4-10	Clean-In-Place(CIP): 2-11
Maximum Pressure Drop	15 psi (1.0 bar) Per Element	60 psi (4.1 bar)Per Vessel(4 in series)

Nominal Dimensions



Products	Dimensions-(in/mm)		
	A	B	C
Dairy NF1-8340-30/45/65-C-1125	40(1016)	8.3(210.8)	1.125(28.58)
Dairy NF1-8338-30/45/65-C-1125	38(965)	8.3(210.8)	1.125(28.58)
Dairy NF1-8038-30/45/65-C-1125	38(965)	7.9(200.7)	1.125(28.58)
Dairy NF1-6438-30/45/65-C-1139	38(965)	6.4(165.6)	1.139(28.93)
Dairy NF1-6338-30/45/65-C-1139	38(965)	6.3(160.0)	1.139(28.93)
Dairy NF1-4338-30/45/65-C-0830	38(965)	4.3(109.2)	0.830(21.08)
Dairy NF1-3840-30/45/65-C-0830	38.8(984)	3.8(96.5)	0.830(21.08)
Dairy NF1-3838-30/45/65-C-0830	38(965)	3.8(96.5)	0.830(21.08)
Dairy NF1-2538-30/45-C-0830	38(965)	2.4(61.0)	0.830(21.08)

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Dairy-NF1	45	≥98%	/

Test Condition: 1) 2,000 ppm $MgSO_4$, 110 psi(7.6 bar), 77°F (25°C), 15% recovery.

2)The flux of one element may vary in the range of ± 25%.

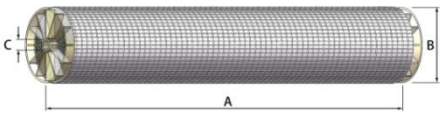
Product Specifications

Model	Membrane area (ft^2/m^2)		
	Spacer 30 mil	Spacer 45 mil	Spacer 65 mil
8040	382(35.5)	307(28.5)	226(21.0)
4040	75(7.0)	67(6.2)	46(4.3)
2540	28(2.6)	23(2.1)	N/A
1812	4(0.35)	3(0.28)	N/A

Operating and Design Information

Typical Operating Pressure	70 - 400 psi (4.8 - 27.6 bar)	
Maximum Operating Pressure	600 psi (41.4 bar)	
Maximum Temperature	Continuous Operation: 50°C(122°F)	Clean-In-Place(CIP): 50°C(122°F)
Allowable pH	Continuous Operation: 4-10	Clean-In-Place(CIP): 2-11
Maximum Pressure Drop	15 psi (1.0 bar) Per Element	60 psi (4.1 bar)Per Vessel

Nominal Dimensions



Products	Dimensions-(in/mm)		
	A	B	C
Dairy NF1-8040-30/45/65-C-1125	40(1016)	7.9(200.7)	1.125(28.58)
Dairy NF1-4040-30/45/65-C-0750/0625	40(1016)	3.9(99.1)	0.750(19.05)/0.625(15.88)
Dairy NF1-2540-30/45-C-0750	40(1016)	2.4(61.0)	0.750(19.05)
Dairy NF1-1812-30/45-C-0620	12(305)	1.75(44.5)	0.620(15.75)

Important information

• New spiral membranes must be cleaned prior to first use. The cleaning procedure should be in accordance with the instructions provided in the HMCT cleaning description for the spiral membrane concerned.

• The customer is fully responsible for the effects that any incompatible chemicals may have on the spiral membranes.

• After initial wetting, the spiral membranes must be kept moist at all times.

• If the operating specifications provided in this product description are not strictly followed, the limited warranty will be null and void.

•To prevent biological growth during system shutdowns, HMCT recommends that spiral membranes should be immersed in a protective solution.

• Avoid permeate-side back pressure at all times.

• HMCT recommends using a rigid stainless steel ATD end device at the housing outlet end.

• HMCT recommends that the inner diameter of the housing should be approx. 2 mm (0.08”) bigger than the outer diameter of the spiral membrane.

• For storage conditions, please see Storage document.

• For warranties, please see spiral membrane warranty document.

Operating guidelines

HMCT recommends the following start-up procedure from standstill to operating condition:

• The unpressurized plant should be refilled with water.

• Feed pressure should be gradually increased over a 30–60 second time scale.

• Before initiating cross-flow at high permeate flux condition (start-up with high-temperature water) the set feed pressure should be maintained for 5–10 minutes.

• Cross-flow velocity at the set operating point should be gradually achieved over a period of 15–20 seconds.

• Temperature variations should be implemented gradually over a period of 3–5 minutes.

• Avoid any abrupt pressure or cross-flow variations on the membranes during start-up, shutdown, cleaning or other sequences in order to prevent possible damage.

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